

claims 14-16, 18 and 25 under 35 U.S.C. § 103, and (C) whether the remarks presented in the Advisory Action represent a new position held by the Examiner, requiring the Examiner to re-open prosecution.

A. Rejection of claims 14, 16-18 and 21-25 under 35 U.S.C. § 103(a)

The rejection of claims 21-24 under 35 U.S.C. § 103(a), set forth in the Final Office Action dated April 4, 2006 (Detailed Action, page 3, line 10 to page 4, line 11), as being unpatentable over U.S. Patent No. 5,635,037 to Chu in view of JP-08-315356 A to Honda et al. ("Honda") is improper. There is no motivation for making the modification of the references suggested by the Examiner. The Examiner argues that Chu discloses most of the features of the claims, but admits that Chu does not disclose the gas mixture required by the claims. The Examiner relies on Honda as disclosing the claimed gas mixture. The Examiner states that one of ordinary skill in the art would have been motivated to use the process gas mixture suggested by Honda to etch the protective layer of Chu. However, this is in contrast to the disclosure of Chu.

As set forth on page 3 of the response filed July 5, 2006, one of ordinary skill in the art, having consulted Chu, would be motivated **to not change** the gas mixture taught therein. Chu discloses an indium mask disposed on the protective layer. The indium mask is etched away while the uncovered sections of the protective layer are also etched. Chu states that it is preferable if the indium mask and protective layer have comparable etching rates. One of ordinary skill in the art would understand that were the etching rate of the mask considerably slower than that of the protective layer, the protective layer could be etched away entirely before the mask had been removed. To avoid this problem, Chu teaches that “by proper choice of the types of gases and the proportions thereof, for example using an argon and oxygen mixture, an etching selectivity of close to one can be achieved between indium and carbon” (Chu, column 7, lines 4-8).

Honda discloses the use of a Teflon mask on a protective layer that is **not** etched away. There is no indication of the etching rate that would be realized using Honda's gas mixture on the indium mask disclosed by Chu. One of ordinary skill would be only motivated to use the "proper choice of the types of gases and the proportions thereof, for example using an argon and oxygen

mixture” as suggested by Chu. Thus, Applicants submit that motivation is lacking for making the modification suggested by the Examiner.

The rejection of claims 14, 16-18 and 25 under 35 U.S.C. 103(a), as set forth in the Final Office Action dated April 4, 2006 (Detailed Action, page 5, line 6 to page 7, line 2), is also improper because there is no motivation for making the modification of references suggested by the Examiner. The Examiner states that Chu in view of Honda discloses most of the features of the invention but admits that “Chu in view of Honda et al. does not expressly teach that the step of plasma etching is carried out immediately after forming the protective layer” (Detailed Action, page 6, lines 13-14). The Examiner relies on U.S. Patent No. 4,816,334 to Yokoyama et al. (“Yokoyama”) as disclosing plasma etching a protective layer immediately after forming the protective layer.

As set forth above, there is no motivation to combine Chu and Honda. Further, in the rejection of claims 14, 16-18 and 25, the rejection combines two references specifically directed to masking, namely Chu (see title) and Honda (see first line of the Constitution of the invention). The Examiner expects the person of ordinary skill to consult Yokoyama, which teaches the removal of the masking steps taught in Chu and Honda. There is no basis in either Chu or Honda for a skilled artisan to further consult Yokoyama, which removes the very step (masking) for which Chu and Honda would be consulted. It is only with improper hindsight that the Examiner has removed the masking steps. (*See*, Applicants response dated July 5, 2006, page 4, line 21 to page 5, line 3.)

B. Rejection of claims 14, 16-18 and 25 under 35 U.S.C. 103(a)

The rejection of claims 14, 16-18 and 25 under 35 U.S.C. 103(a) is also improper because it does not include all the elements required to make a *prima facie* rejection. The claims are rejected as unpatentable over Chu in view of Honda and further in view of Yokoyama. However, not all claim limitations are taught or suggested by these references. The Examiner admits that neither Chu nor Honda teach plasma etching immediately after forming a protective layer. The Examiner relies on Yokoyama as disclosing plasma etching immediately after forming a protective layer. However,

Yokoyama does not disclose plasma etching, as required by the rejected claims. As set forth in the response dated July 5, 2006, on page 4, line 14-20, all of the rejected claims recite that the plasma etching removes particles from the surface of the protective layer. In contrast, Yokoyama discloses *plasma treating* the protective film. There is no indication in Yokoyama that the disclosed plasma treatment removes particles from the protective layer. Further, the gases used in Yokoyama's plasma treating are not highly reactive. Thus, Yokoyama does not disclose plasma etching the surface of the protective layer immediately following forming the protective layer. Therefore, the rejection does not include all of the necessary elements required to make a *prima facie* rejection, since all claim limitations are not taught or suggested by the combined references.

C. Advisory Action Remarks

The Continuation Sheet of the Advisory Action dated July 24, 2006 includes remarks presented by the Examiner. It appears from the remarks that the arguments set forth above and presented in the July 5, 2006 response were accepted by the Examiner. However, the Examiner states that the arguments are moot in view of a different reading of the references previously relied upon.

With respect to the improper motivation to combine Chu and Honda as presented in the rejection of record, the Examiner states that the Teflon mask of Honda could be used in place of the indium mask of Chu. However, this combination has not been presented in any rejection of record and Applicants have not been given an opportunity to argue against it.

With respect to the lack of required elements in the combination of Chu, Honda and Yokoyama, the Examiner states that the argument is moot because the masking steps of Chu and Honda may be considered part of the etching process step. Thus, the Examiner contends that Chu and Honda disclose plasma etching a first surface of the protective layer immediately after forming the protective layer. The Examiner's position presented in the remarks is in direct contrast to the position held in the Final Office Action and the rejection of record, which states that **"Chu in view of Honda et al. does not expressly teach that the step of plasma etching is carried out**

immediately after forming the protective layer” (Detailed Action, page 6, lines 13-14).

Applicants would like to respond to this new position prior to Appeal.

Applicants submit that if the Examiner would like to present new grounds for rejection, that the application be reopened for Examination and the rejections made in an Office Action. As such, the rejections will be made of record and the Applicants will have an opportunity to address them properly. As explained in sections A and B, however, a *prima facie* case of obviousness has not been established and the application should be passed to issuance.

Dated: August 4, 2006

Respectfully submitted,

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